



Spent Fuel Storage Renewal Framework

RIC 2016

Session T3: Independent Spent Fuel Storage Installation and
Certificate of Compliance Renewals—Update on the Latest
Guidance Developments


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Outline

- Background
 - Requirements for spent fuel storage renewals
 - NRC effort to identify needs for the storage renewal framework
- NRC guidance development
- External infrastructure development




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Background – Storage Renewal Requirements

- Renewal of Independent Spent Fuel Storage Installation specific licenses and Certificates of Compliance for dry storage system designs, for a period not to exceed 40 years
- Maintain intended functions in the period of extended operation
 - Time-limited aging analyses
 - Aging management programs (AMPs)



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Background – Effort to Identify Needs



- NRC staff experience with storage renewal reviews indicated a need for expanded guidance
- NRC team assessed current regulatory framework to determine what changes were needed
- Extensive stakeholder engagement and valuable input received from stakeholders



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Background – Needs

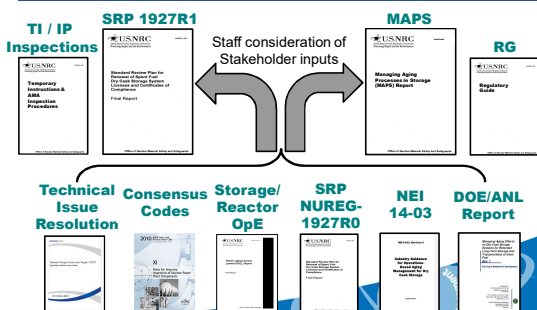


- Operations-focused approach to storage renewals
 - Learning, proactive and responsive
- Sustainable regulatory framework for storage renewals
- NRC guidance development and external infrastructure development



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Infrastructure for Updated Storage Renewal Framework



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NRC Guidance Development



- NUREG-1927, Rev. 1 (Standard Review Plan for storage renewals)
- Managing Aging Processes in Storage (MAPS) Report
- Guidance for NRC inspections of licensees' aging management activities
- Regulatory Guide



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NUREG-1927, Rev. 1



- Revisions and updates made throughout Rev. 1
- Includes example aging management programs
- Draft guidance published for public comment in July 2015
- Path forward:
 - Coordinate with the Advisory Committee on Reactor Safeguards (ACRS) in March/April 2016
 - Publish final guidance in summer 2016



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MAPS Report



- Provide an acceptable generic approach to aging management for dry storage systems
- Comparable to NUREG-1801 for reactor renewals
- Increase efficiency of preparation and review of storage renewal applications
- Path forward:
 - Engage with stakeholders and ACRS
 - Publish draft guidance for public comment (summer 2016)
 - Publish final guidance (summer 2017)



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NRC Inspection Guidance



- Guidance for NRC inspections of licensees' aging management activities
 - Verify that licensees are effectively implementing AMPs by:
 - maintaining effective procedures for AMP implementation
 - conducting proper inspections and monitoring
 - completing timely and effective corrective actions
 - Temporary Instruction, Inspection Procedure
 - Under development



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Regulatory Guide



- Regulatory Guide that discusses storage renewal guidance framework
 - Vehicle for potential endorsement of industry guidance in NEI 14-03
 - Future development, pending NEI 14-03 review and MAPS development



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External Infrastructure Development



- Consensus American Society of Mechanical Engineers Boiler and Pressure Vessel Code Section XI Code Case for inservice inspection of dry storage canisters
- Consensus American Concrete Institute Guide for inservice inspection of concrete overpacks



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External Infrastructure Development (cont.)



- NEI 14-03, Rev. 1, Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management
- In-situ nondestructive examination capabilities
- International Atomic Energy Agency guidance on development of AMPs for dry storage systems



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Sustainable Renewal Framework



- Informed by review experience, operating experience, and research
- "Learning" – aging management programs consider and respond to operating experience
- "Living" – guidance will be updated over time, as needed
- Applicable to first and subsequent renewal periods



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References





- Draft NUREG-1927, Rev. 1, Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1927/r1/>
- NUREG-1801, Generic Aging Lessons Learned (GALL) Report
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1801/>
- NEI 14-03, Rev. 1, Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management
ADAMS Accession No. ML15272A329



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Acronyms

- ACRS – Advisory Committee on Reactor Safeguards
- AMP – aging management program
- DSFM – Division of Spent Fuel Management
- MAPS – Managing Aging Processes in Storage
- NEI – Nuclear Energy Institute
- NMSS – Office of Nuclear Material Safety and Safeguards
- RMB – Renewals and Materials Branch



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